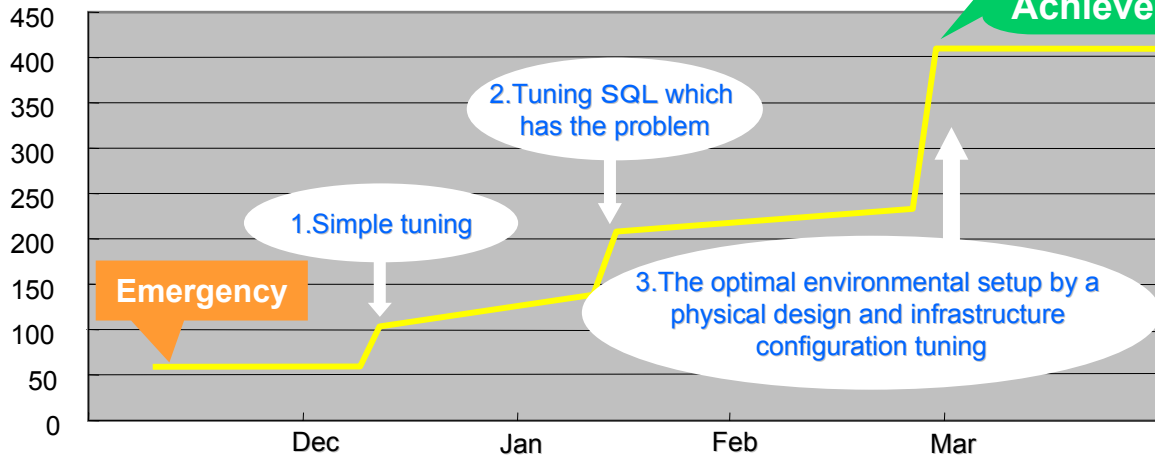


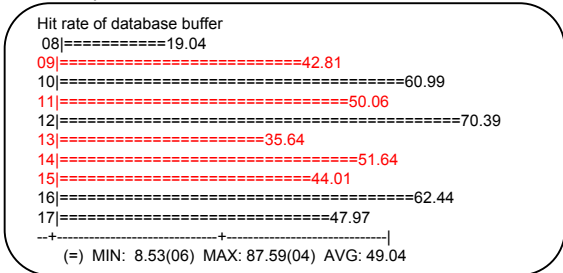
Emergency!

Suddenly a phone rang in a quiet fine autumn morning. The voice from the phone was so tense that I almost drop the coffee. The phone call was grievous cry from the man who was in charge of the basic system of major information communication company. He said that last evening they have examined the load test, and 60 accesses was the limit to 400 simultaneous accesses expected by the accounting term in March. The consultant Mr. A of Insight Technology floated a smile on a tense atmosphere.

(connections) <Average number of concurrent connection in B company >

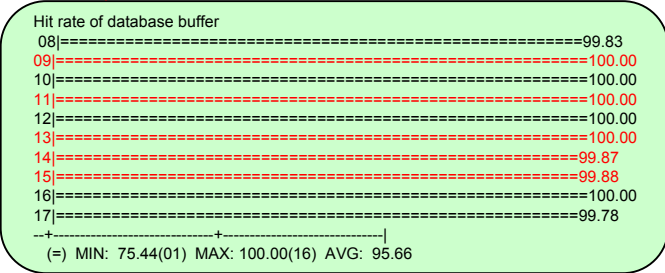


Found out that accessing to the Disk is effecting the performance. The cause is the state where "improvement in performance effectively by using cache" which is the characteristic of RDBMS was not performed.

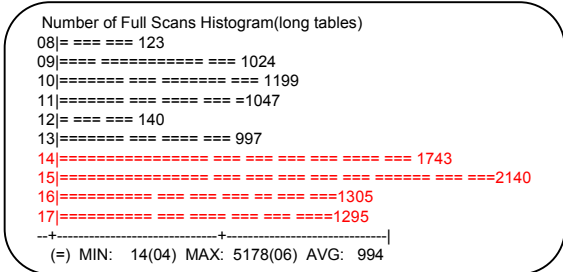


Tuning 1

The "improvement in performance effectively by using cache" which is the characteristic of RDBMS, it functioned effectively and hit rate improved.

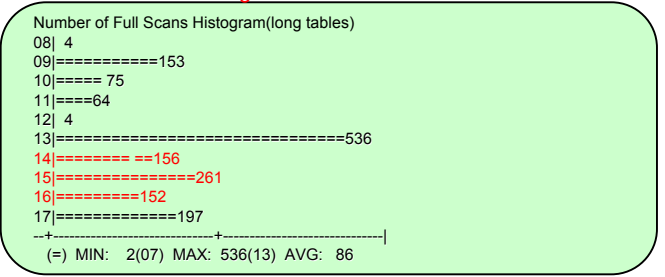


Found out that one SQL execution is causing high access load to the Disk. The case is frequent occurrence of full scanning process that came from not understanding the "SQL characteristic" which is the characteristic of RDBMS.



Tuning 2

From understanding "SQL characteristic", and decreasing full scanning the I/O load to the Disk also decreased. Also, number of execution of full scanning decreased.



Found out that all Disk I/O concentrated to data.dbf, and all datafile objects are connected to same Disk. The cause is the physical design which ignored the characteristic of the object of RDBMS

FILE_NAMES	STATUS	PHYSICAL_R	PHYSICAL_W
/DISK01/system01.dbf	SYSTEM	5,209	57
/DISK1/tools01.dbf	ONLINE	2	2
/DISK1/temp01.dbf	ONLINE	2	2
/DISK1/data.dbf	ONLINE	29,278,231	1,205
/DISK1/rbs.dbf	ONLINE	2	1,840
/DISK1/rbsadd.dbf	ONLINE	2	2

Tuning 3

From understanding the characteristic of the object of RDBMS, and by reconciliation coexistence with the performance of the Disk it made it successful to distribute the load of I/O.

FILE_NAMES	STATUS	PHYSICAL_R	PHYSICAL_W
/DISK1/system01.dbf	SYSTEM	3,557	548
/DISK1/tools01.dbf	ONLINE	7	5
/DISK1/temp01.dbf	ONLINE	27,456	27,479
/DISK2/DATA1.dbf	ONLINE	9,504,214	40,078
/DISK3/DATA1_IDX01.dbf	ONLINE	5	5
/DISK4/DATA1_P02.dbf	ONLINE	45,787	2,199
/DISK3/DATA2.dbf	ONLINE	1,820,885	133,320
/DISK4/DATA2_P01.dbf	ONLINE	11,064	12,351
/DISK4/DATA3.dbf	ONLINE	27,833	1,862
/DISK2/DATA3_P01.dbf	ONLINE	14,143	669
/DISK1/rbs.dbf	ONLINE	5	72,474
/DISK1/rbsadd.dbf	ONLINE	5	76,941